November 17, 1988

Mr. Robert Morby
Chief, Waste Management Branch
Air and Waste Management Division
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101

Dear Mr. Morby:

Enclosed is the annual report of analyses of fish and sediment samples taken from the Spring River in 1988. This report is being provided in compliance with the Verona Plant Fish and Sediment Plan, as approved by the U.S. Environmental Protection Agency on March 24, 1984 (Docket No. 83-H-008).

The origins of the fish samples are documented in a letter dated September 13, 1988, from Mr. Ron Crunkilton of the Missouri Department of Concervation to you. A previous letter to you on November 11, 1986 from Dr. Throop stated our intention to analyze the fish samples at Syntex Research. The report of this year's analyses by Dr. Kelvin Chan is attached (AER: 9882). Table I of this report is the summary of analytical results. The required deliverables are included in Dr. Chan's report. As in previous years we have calculated the equivalent of a whole fish analysis for fish in Group B at each site using the laboratory analyses for fillets and remainders and the weights of fillets and whole fish supplies by Mr. Crunkilton. The calculated equivalent levels of TCDD in whole fish are summarized in the attached Table II.

The sediment samples were taken in the field on September 13, 1988 by Mr. Juan M. Velasco representing the government and witnessed by Mr. Glen Davis representing Syntex Agribusiness. The samples were analyzed by Syntex Research. The analytical results were reported by Mr. B. Berridge to Dr. L. Throop on November 14, 1988. A copy of this report (AER: 9874) is attached.

This is the fifth and final year of sampling and analysis under the plan of March 24, 1984. In accord with the plan a report is being prepared to apply the statitical analyses required by the agreement. I expect to be sending the results of the statistical analyses to you soon.

Please do not hesitate to telephone me if you have any questions concering these results or if I can provide you with any additional information.

Yours sincerely,

David Robertson

David Robertson, Ph.D.
Department Head
Environmental Analysis
and Process Control

cc: K. Stormer (w/attach.)
L. Throop
1660y/lp

TABLE II

Calculated 2,3,7,8-TCDD Levels in Whole Fish
Based on Analyses of Fillets and Remainders from Group B

Site	Reference Number	Weight of Fillets (1)	TCDD in Fillets ppt (2)	Weight of Whole Fish (3)	TCDD in Remainder ppt (2)	Calc. TCDD in Whole Fish ppt
1	T19C4-004	116g	3.2	869g	31.3 (4)	26.7
2	T19C4-009	141g	5.9	1194g	30.6	26.3
3	T19C4-013	105g	1.3	758g	10.0	8.4
4	T19C4-017	80g	1.2	591g	14.1	12.0
5	T1C94-021	156g	0.4	1098g	4.2	3.5

$$\text{Calculated TCDD in Whole Fish} = \frac{[\text{wt. of fillets X TCDD in fillets}]+[(\text{wt. of whole-fillets})\text{X TCDD in remainder}]}{\text{WT. OF WHOLE FISH}}$$

(1) Data provided by Mr. Crunkilton, September 13, 1988
(2) Data provided by Dr. Chan, November 16, 1988
(3) The total weight of whole fish was obtained by adding the individual weights provided by Mr. Crunkilton
(4) Average of two analyses

Calculations by David Robertson